

# COLLEGE OF BUSINESS STANDARD COURSE OUTLINE

## I. General Information

Course Number:	IS 540
Course Title:	Business Application Programming
Units:	3
Prerequisite:	Graduate Standing
Course Coordinator:	Melody Kiang
SCO prepared by:	Melody Kiang
Date prepared/revised:	Oct. 7, 2012

## II. Catalog Description

Introduce Object-oriented programming concepts and constructs. Analyze, design, and implement Windows-based business applications that fully utilize the Graphical User Interface tools and techniques. Develop a fully functioning enterprise information system that utilizes advanced programming techniques for interacting with the database. Letter grade only (A-F).

## III. Curriculum Justification(s)

Business application program is the core component of an enterprise information system. It can assist the daily operations of all business functions including finance, accounting, marketing, supply chain, human resources, and other aspects of management. To prepare for the future managers of Information Systems, the students need to be able to understand all issues related to trouble shoot and maintain existing information systems, migrating legacy systems, and analyze and design new enterprise information systems that implements state of the art information technologies. The design of a multi-tier information system allows the separation of user interface from the implementation of business rules and policies, and the database. Hence, it can greatly enhance the flexibility and extendibility of the system and allows it to grow and modify as the business environment changes. Visual Basic (VB) .NET is one of the most popular Windows-based programming languages used in today's business. Learning the knowledge of VB .NET will greatly enhance the readiness of our Information Systems students for the increasing competition in the digital business environment. In addition, to meet the rising needs of today's business, the course will focus on the development of Business Intelligence applications that require the utilization of advanced database techniques in VB .NET to dynamically retrieve and analyze big data.

Upon completion, the student will meet the following four specific CBA learning goals:

- Learning Goal #1 – Critical Thinking
- Learning Goal #3 – Interpersonal, Leadership & Team Skills
- Learning Goal #5 – Quantitative and Technical Skills

## IV. Course Objectives

Students who pass IS 540 must demonstrate ...

- 1) understanding of object-oriented programming language concepts,
- 2) knowledge of user interface design issues and techniques,
- 3) knowledge of VB.NET language concepts and constructs,
- 4) knowledge of techniques to link database and VB.NET application in business,
- 5) understanding the importance and benefits of a multi-tier system architecture,
- 6) the ability to design and implement a multi-tier enterprise application,
- 7) understanding of issues in business application development and management,
- 8) the ability to use VB .NET to perform advanced processes that interact with the database systems,
- 9) the ability to design and implement business intelligence applications through the incorporation of embedded SQL statements.

## V. Outline of Subject Matter

- \* Introduction to the Object-Oriented Programming Language (Visual Basic)
- \* User Interface Design
- \* Variables, Constants, and Calculations
- \* Decisions and Conditions
- \* Menus, Common Dialog Boxes, Sub Procedures, and Function Procedures
- \* Multiform Projects
- \* Lists, Loops, and Printing
- \* Arrays and Data Files
- \* Multi-tier system architecture
- \* Database Applications
- \* Graphics, Animation, and Sound
- \* Advanced database applications that utilize embedded SQL
- \* Business Intelligence

## VI. Methods of Instruction

In this hands-on instructor-led business application language course, students learn the fundamental skills that are required to design and develop object-oriented applications for Microsoft Windows using Visual Studio .NET development environment. After each major topic is introduced students undertake short exercises to ensure their understanding of the essential concepts. The course covers all important object-oriented topics you need to understand to develop using Visual Basic (VB) .NET framework. Opportunities for class discussion, group work, and student presentations are essential. Instructors are strongly encouraged to introduce real-life cases of how VB .NET can be used to develop applications for various business functional areas, such as Accounting, Finance, Marketing, Human Resource Management, Operational processes, and General Management. Students will be able to create attractive and useful applications that fully

exploit the graphical user interface (GUI). Planning and writing multi-tier, event-driven, object-oriented programs(OOP); documentation and debugging techniques; understanding objects, properties, methods, and events; use of control structures, lists and arrays, and implementation of advance database techniques through embedded SQL to create Business Intelligence (BI) applications. The class provides extensive hands-on experience on a Windows-based PC.

#### Extend and Nature of Technology Use

Instructors must assign homework, exercises, and projects that involve design and implementation of business related application programs.

#### Required Texts

Programming in Visual Basic 2010, by Julia Case Bradley and Anita C. Millspaugh. Published by Career Education; Apr. 2011. ISBN: 978-0073517254

#### Required Software

Microsoft Visual Basic 2010

## **VII. Instructional Policies Requirements**

### *A. Assessment Criteria*

#### Homework

Students will complete individual homework profiling their competence in various subject matters.

#### Quizzes and Exams

Students will complete quizzes (optional), mid-term exam (required; at least one), and final exam (required).

#### Projects

Instructors are strongly encouraged to assign comprehensive course project (individual or group) that requires problem solving and uses of the business programming language and advanced database technologies to develop real-world Business Intelligence application systems.

### *B. Required Statement*

In compliance with university policy: Final grades will be based on at least three, and preferably four or more, demonstrations of competence. In no case will the grade on any class tests count for more than one-third of the course grade.

### *C. Attendance, Withdrawal, Late Assignments*

Students are expected to attend courses and turn in assignments on time. Specific attendance and late assignment policies are up to each individual instructor's discretion. The withdrawal policy is the same as that of the university.